Algebra 1™

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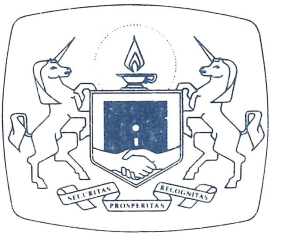

The Software Guild

SYSTEM REQUIREMENTS

Apple® II, II+ or Franklin Ace™ 1000 • 48K RAM
Applesoft • One Disk Drive • DOS 3.3

PACKAGE CONTENTS

Algebra 1 Diskette
Instruction Booklet
Warranty Card

OVERVIEW

Algebra 1 is for every student today interested in acquiring the math skills necessary in an increasingly scientific and technological world. It is the first part of a series of programs, which together comprise a complete algebra course. This first part is designed to help the beginner or review student master basic concepts in algebra. It includes five major units: Definitions, Number Line Operations, Sets, Evaluating Expressions and Rules For Equations Reduction.

Through techniques like colorful display graphics, flow charted "information maps" and customized lesson plans, learning with Algebra 1 is fun and personally challenging. A flexible lesson plan allows you to master concepts like properties and equation operations at your own pace. Success is easy in algebra when you study with Algebra 1.

INPUTS AND OUTPUTS

Inputs are entries which you type into the computer. In this manual inputs are presented in one of two ways:

individual console keys	<RETURN>, <3>, <P>
everything else	*RUN, 09/12/82, Roger*

While running the program, the computer will be presenting a variety of information, prompts and messages to you on the screen. In this manual such outputs will be presented in boldface italics:

(sample output)	***Enter your name***

Note: The <CTRL> key operates like the shift key on a regular typewriter. If you are told to enter <CTRL-P>, just press <P> while holding the <CTRL> key down.

IMPORTANT TIPS

Handle your diskettes carefully and always keep them in their special jackets while not in use.

Do make sure the shift lock light is lit if running this program on the Franklin Ace. This program recognizes only capital letters.

Do not press <CTRL-C> while the program is running. Results are unpredictable and damage to your program may result.

Do not open the disk drive door while the "in-use" light is on. This may damage your diskette and render it unusable.

Do not try to make a copy of this disk. If during normal use something goes wrong with your diskette, please refer to the Troubleshooting section of this manual.

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I. Algebra 1 In Brief

Welcome to Algebra 1! It is the first part in a series that uses powerful computer techniques to teach algebra in the home or classroom. Through easy entry/exit features, the program allows for maximum flexibility. You discover the methods which best teach you the five lesson units in Algebra 1: Definitions, Number Line Operations, Sets, Evaluating Expressions, and Rules For Equation Reduction.

With Algebra 1 you can:

- Get "positive feedback" throughout each program in the module by reading computer responses that evaluate your progress.
- Plan the lesson pace around your time and ability. A customized learning style lets you experiment with your needs.
- Follow a recommended sequence by looking at easy-to-read flow charted "information maps" and other colorful graphic displays.

Once you see how effectively Algebra 1 works, you will be anxious to try other educational programs available from Softsmith. Consult your local dealer for a catalog and demonstration.

HOW TO USE THIS MANUAL

This manual explains how to use Algebra 1. It will familiarize students with Algebra 1's concept organization (the Algebra menu), the lessons of Algebra 1 and how to use flow charts which point out a recommended lesson plan. We suggest you read this manual in its entirety before starting up your program to make learning easy and fun!

WARRANTY CARD

Please take a moment to complete and mail the enclosed Warranty Card. By having your name on file we will be able to provide better customer service, including information on program updates and replacement of damaged diskettes.

GETTING STARTED

To get started with Algebra 1 simply follow these steps (this is called "booting"):

1. Make sure the power switch on the rear left of the computer is in the off position.

2. Open the disk drive door by pulling out and up on its bottom edge. Slip the diskette into drive #1 with your right thumb on the diskette's label. (The label will be up and will be the last edge of the diskette to enter the drive.)

3. When the diskette is entirely in the drive, close the drive door.

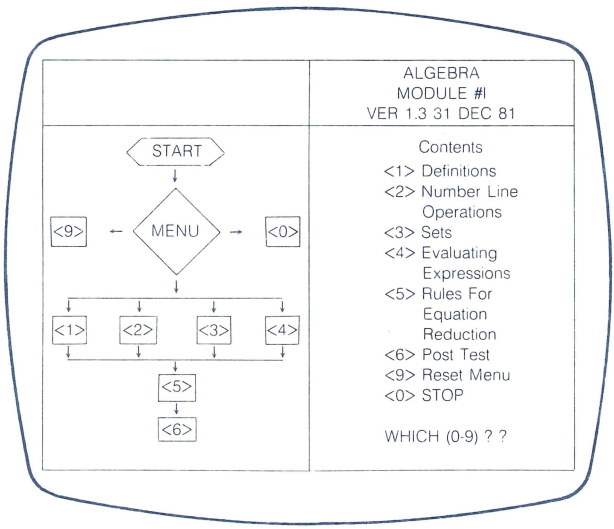
4. Turn the power switch to the on position. You will hear a "beep" from the computer and the "in-use" light on the disk drive will come on. This means that the program is loading.

You will now see the Softsmith logo page and Algebra 1 title page appear on the screen. If you don't, please try turning your computer off briefly, and then on again.

II. How To Use Algebra I

THE ALGEBRA MENU

Begin by following the "Getting Started" instructions above. After your disk has been "booted", the first screen shown is the Algebra Menu and will have a contents list on the right side of the screen that looks like this:



Select any desired program from the menu and press the number key for that program. The highlighted box on the left confirms your selection. If you have a color TV or monitor on your Apple II or II+ you will notice that Algebra 1 uses color coordinated outlines around boxes on the Menu. These provide lesson sequence information to help remind you where you are in the course.

- A white outline means that the unit post test has not been attempted.
- A green outline tells you that you passed a post-test.
- A red outline warns you of areas in your program that you unsuccessfully attempted and need to review.
- A blue outline indicates a recommended unit.

Note To Franklin Ace Users: Although the color coding enhances your Algebra 1 program it is not a necessary feature.

After you have entered your selection a list of concepts associated with the that lesson will appear. This is the first of two sub-menus. To get a better idea of these concepts look at "The Lessons of Algebra 1" section and notice the contents after each unit title. Here is a list of concepts the screen would display if you pressed <1> on the Algebra Menu.

<1> Numerals
<2> Operators
<3> Grouping Symbols
<4> Equality
<5> Definitions Test

Select the concept you wish to work with by pressing the appropriate number key and the second sub-menu (the mode selection screen) will appear. Mode selection gives you a choice about how you study particular concepts. Here are your choices and a brief description.

- *Definitions:* an explanation of concept terms is presented.
- *Rules:* all rules associated with a concept are presented.
- *Examples:* for each concept there are many examples showing how to apply that idea and how to solve related problems.
- *Sample Problems:* in each mode nine test problems are presented. After each response a *RIGHT* is provided if the answer is correct, a *WRONG*, or a *NO*, with the correct answer given, if the response was incorrect.

In most cases you will want to examine all four to fully grasp the concept. Sometimes, however, you may just want to see an example or sample problem. The choice is always yours. After you have chosen the mode, the first page of the information contained in that mode will appear on the screen. When you have completed the unit, a post test is given to evaluate your knowledge for each concept.

**NOTE: On the top of the screen display for each page you will notice in the upper left hand corner three letter/number groups. The letters are C, M, and P. The C refers to the concepts which are available on the menu. The M refers to the mode: One = Definitions; two = Rules; three = Examples; and four = Sample Problems. The P refers to the page number within that concept and mode. Sometimes there will only be one page for a particular mode and in other cases there are multiple pages.

POST-TESTS

Post-tests are optionally taken when you feel you have mastered a certain unit. In each concept area twelve questions are offered. Your responses are evaluated, and the total number of right and wrong answers is presented on the screen. The computer will also indicate any area of weakness.

GETTING AROUND IN THE PROGRAM

The following procedures allow you to move about within Algebra 1 more easily.

To change modes:	Press the <ESC>, <M> and <n> keys. (n is the mode number you want to change.)
To Return to the concept Menu:	Press <ESC>, <M> and <0> This will allow you to continue and repeat your current mode or select a new mode or concept.
To repeat or return to a page in the mode:	Press <ESC>,<M> and <n> (n is the mode number you are in.)
To leave the program:	Press <ESC>. Wait for beep and press <ESC> again. You will return to the main Menu. Press <0> and the program will end.

MENU STEP ILLUSTRATION

Below is an example of how you can progress through the Algebra 1 menus. The contents menu shown tests the selections available after you press <1> on the Algebra Menu pictured earlier. You may select any number on the contents menu but generally you will want to select all the concepts. For each, the Mode Selection Menu will appear. To learn most effectively, use all four teaching modes for each concept.

The Contents Menu

DEFINITIONS
CONTENTS

<1> Numerals
<2> Operators
<3> Grouping Symbols
<4> Equality
<5> Definitions Test
<0> Return to Algebra Menu
WHICH ONE (0-5) ??

The Mode Selection Menu

DEFINITIONS
NUMERALS
Mode selection

<1> Definition
<2> Rule
<3> Example
<4> Sample Problem
<0> Return to Contents
WHICH ONE (0-4) ??

III. Planning Your Lesson Sequence

Now that you have learned how to use Algebra 1 and what lessons are available, this section will guide you more carefully through a recommended lesson sequence to learn Algebra concepts. This is easy because the computer does all the hard work. All you have to do is follow along!

THE LESSONS OF ALGEBRA 1

Here is a complete listing of lesson units and concepts for the Algebra 1 program. After you have completed these units you should be accomplished in basic algebra.

Unit One: Definitions

- Numerals
- Operators
  - addition
  - subtraction
  - multiplication
  - division
- Grouping Symbols
  - parentheses
  - brackets
  - braces
- Equality (less than/greater than)

Unit Two: Number Line Operations

- The Number Line
- Real Numbers
  - positive/negative/real numbers
  - absolute values
- Using Negative Numbers
  - addition
  - subtraction
  - multiplication
  - division

Unit Three: Sets

- Definition-element/non element
- Number Systems
  - natural/whole/real numbers
  - integers
- Size
  - null set
  - finite/infinite sets
- Properties
  - equal/equivalent sets
  - subsets
  - union/intersection of sets

Unit Four: Evaluating Expressions

- Variables/constants
- Factors/coefficients
- Exponents

Unit Five: Rules For Equation Reduction

- Combining like terms
- Simple Equations
- Order of operations

USING FLOW CHARTS

For each "Menu" in Algebra 1 a graphic flow chart has been provided which "maps" out the choices available to you. On the left side of each menu is the flow chart representation and on the right side is a legend or listing for each box within the flow chart. The flow chart takes the frustration out of deciphering what information you do and do not know. By following all the flow charts shown in the program a recommended sequence is easy to locate. The choice of how to proceed, however, is always yours.

PROMPT MESSAGES

The Algebra 1 program will ask, instruct, or offer information numerous times while using your system. By paying close attention to the messages, you can save time worrying about your progress because the computer will oversee your work and suggest the next step to you. Use the color codes explained in Chapter 1 which outline each rectangular figure in the flow charts. Also pay attention to the Post-test messages which appear at the end of each test. Your skills are evaluated at this point in the program, so you may use these scores as reference.

IV. Troubleshooting

Refer to this section if your new Algebra 1 program does not work properly.

The program never starts, or dies soon after starting.

- Check the instructions for getting started. Try them again, following all the steps exactly.
- Check to see that you have the diskette in disk drive #1, and that this drive is in slot #6.
- Make sure you have all the equipment necessary to run this program, and that it is properly connected. See the front page of this booklet for a list of necessary equipment.
- Make sure your disk drive is working properly. Try another diskette which you know to be good. If it also does not start properly, stop the computer immediately, and disconnect the drive. Do not use the drive again until it is checked, or it may damage other diskettes.

Your disk becomes damaged.

Given normal use, it should not be possible to damage your diskette. Should your diskette become damaged, please send it to us at the address below, together with a short description of the problem. The Software Guild will replace your disk promptly, per provisions in the warranty.

Other problems.

If you have problems with your program, please contact the dealer where you purchased the software. They have the experience and service network to assist you.

The objective of The Software Guild[SM] is to provide the highest quality software products available. In order to improve our products wherever possible, we are happy to receive comments, criticism or praise. Write to us at:

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